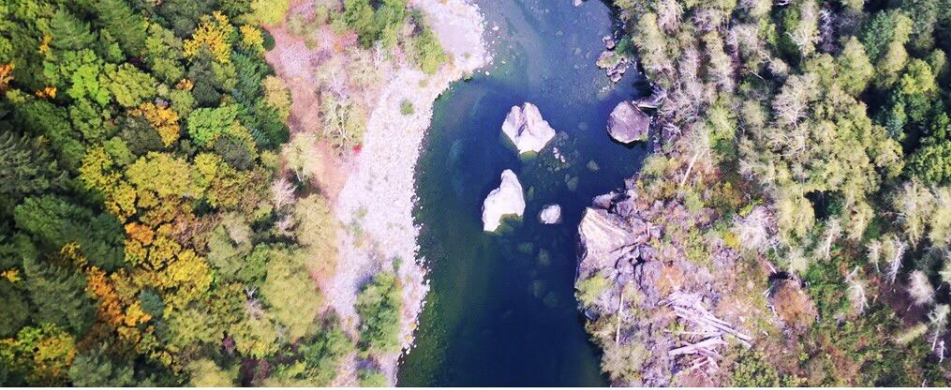


# Sudden Oak Death in Oregon Forests



Oregon Department of Forestry  
Oregon Department of Agriculture  
Oregon State University  
USDA - Forest Service  
USDI - Bureau of Land Management  
Association of Oregon Counties

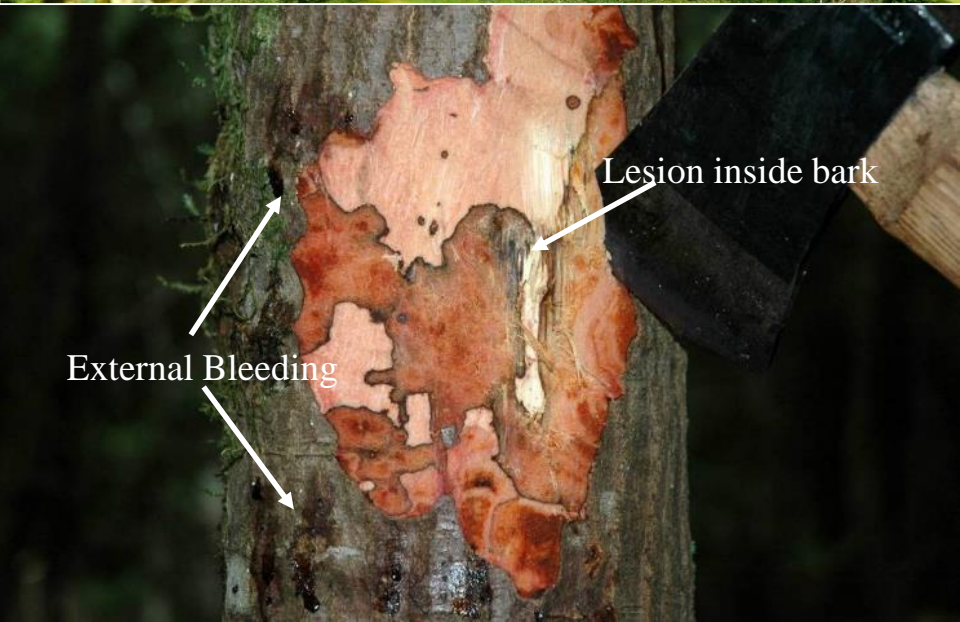


# SOD in Oregon



Curry County, 2014. Tanoak mortality

- *Phytophthora ramorum* (non-native)
- Tanoak is the key host species
- Many hosts infected (and regulated)
- Requires mild/moist environments
- Survives in a variety of substrates – plant debris, soil, water
- Reproduces by spores
- Origin unknown
- Many pathways for dispersal
- Aerial spread



Rhododendron



Douglas-fir



Grand fir

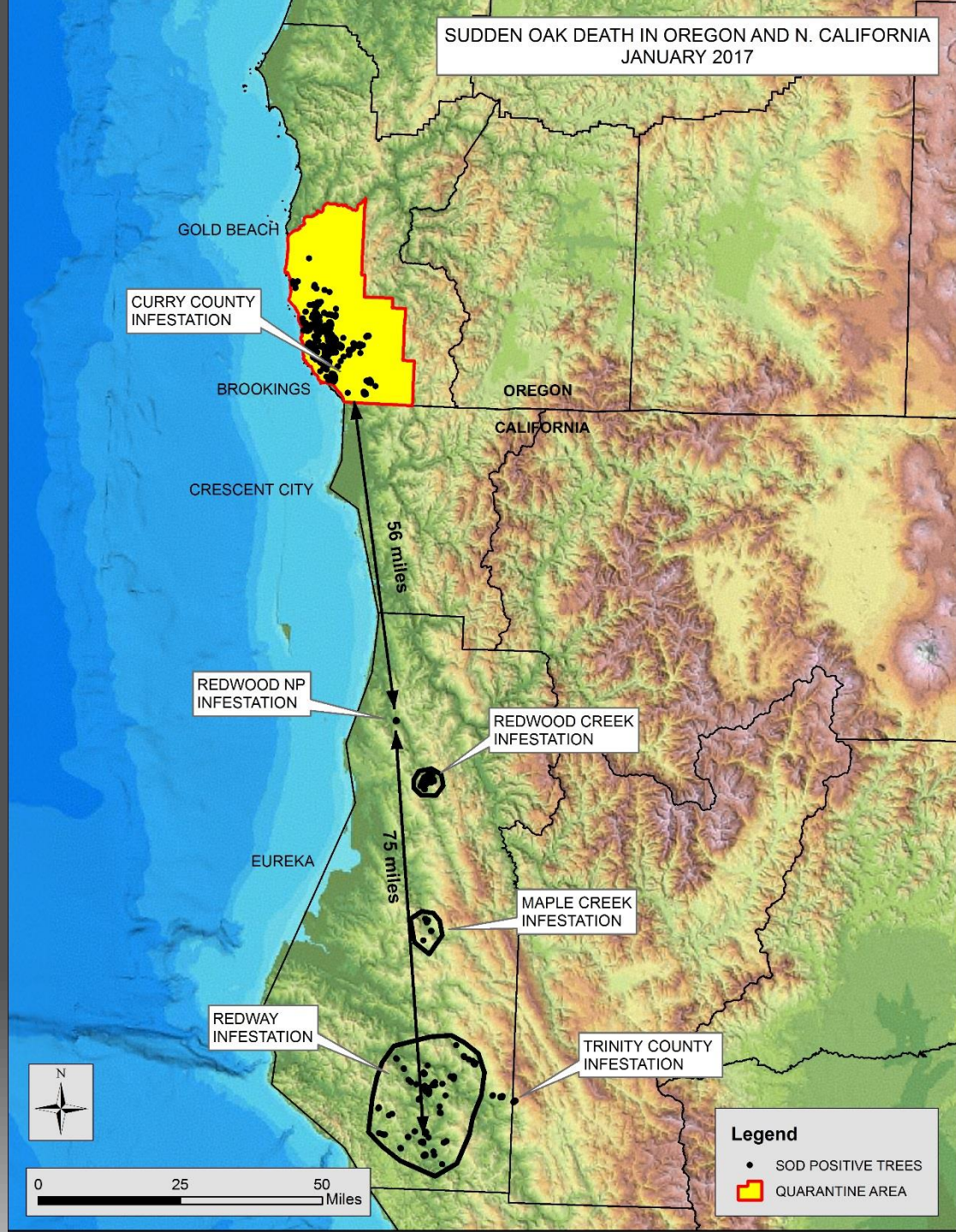


Oregon myrtle



# SOD in Oregon and California

- Oregon: discovered 2001
- First introduction – 1998 (Brookings)
- Second introduction – 2010 (near Cape Sebastian)
- Third introduction- EU1 Pistol River
- Origin unknown / California





# Sudden Oak Death Program in Oregon Forests



1. Survey and detection
2. Delimitation of infected sites
3. Treatment of infected sites
4. Regulation / education
5. Monitoring / research



Delimitation : 15-100 m. buffer from infected trees



## Delimitation and Treatment

1. Treatment area buffers; 50 to 300+ ft, recently as small as 20 ft.
2. Herbicide injection to prevent stump sprouting (usually)
3. Cut and burn tanoak, rhododendron, huckleberry, sometimes myrtle.
4. Costs : \$3,000-\$5,000 / acre
5. No cost to private landowners where treatment is required by quarantine rule, but no compensation for loss.











2012



0

250

500 Feet







2014



0

250

500 Feet





2016



0

250

500 Feet





2017



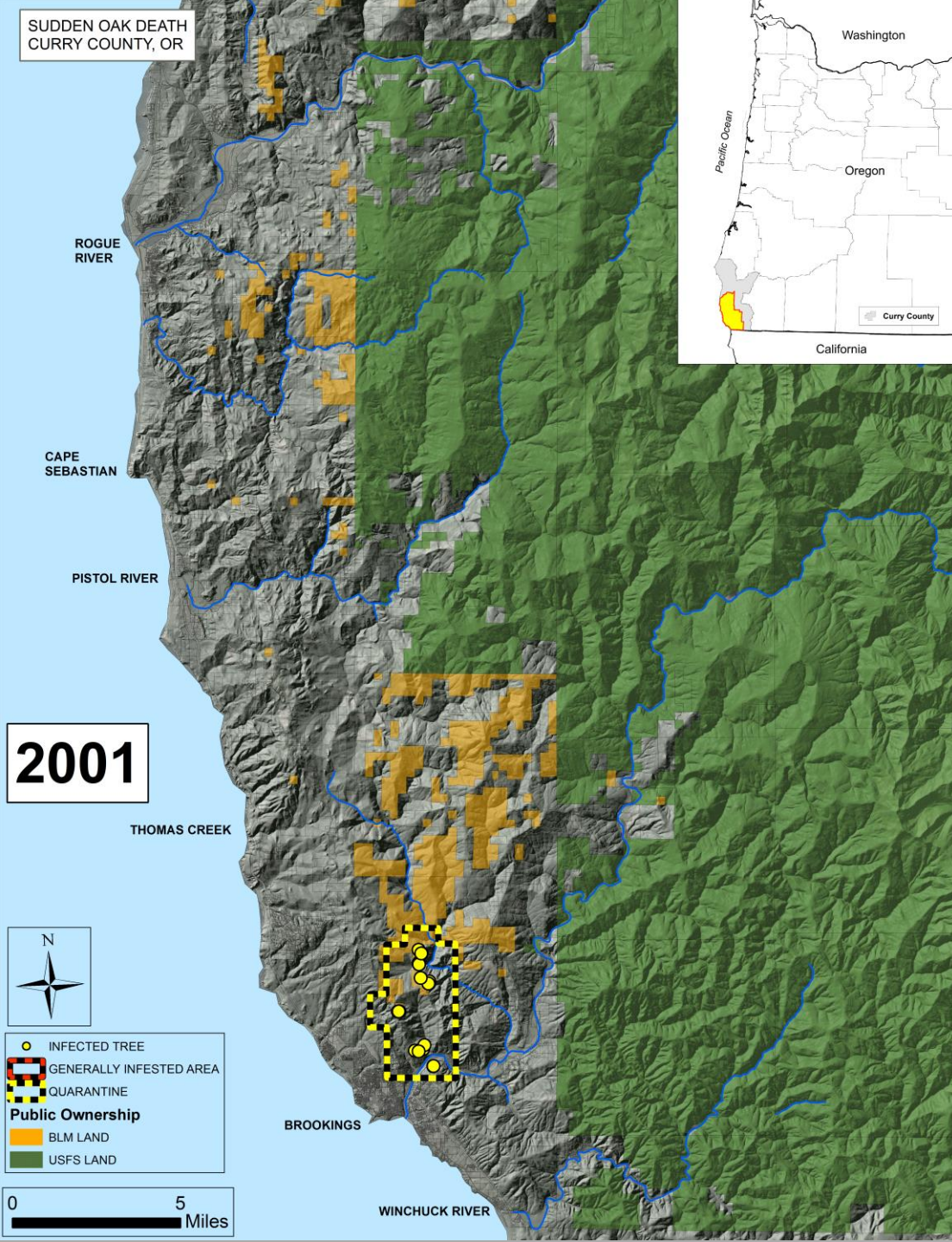
0

250

500 Feet



# SUDDEN OAK DEATH CURRY COUNTY, OR



## SUDDEN OAK DEATH

SOD Quarantine Regulations established under the regulatory authority of ODA

Risk of sudden oak death is driven mostly by abundance of tanoak

Potential to spread throughout range of tanoak into Coos, Douglas, and Josephine counties

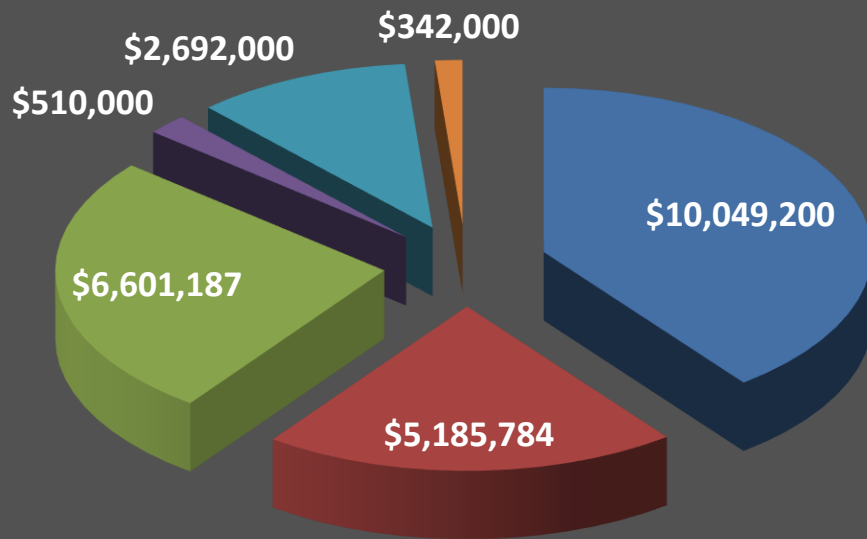
Eradication treatments can locally eliminate disease and stop spread if infestations are detected early and treatments are completed promptly and at the proper scale



# SUDDEN OAK DEATH

## Funding-

**SOD Program Costs 2001-2018 (Forests)**  
**Detection, monitoring, eradication,**  
**administration**  
**\$25,380,171**



■ USFS (39%)	■ BLM (22%)
■ ODF/STATE (23%)	■ APHIS (2%)
■ ARRA (12%)	■ PRIVATE (2%)

ODF received an additional \$1,450,000 from the state legislature to treat EU1 infestations in 2017 and 2018

Treatment funds total approx. \$2,375,000 for eradication

NRCS Oregon has requested up to \$500,000 of funding through the EQIP to treat up to 200 acres.

USFS treatment funds total \$425,000 for 2018

BLM treatment funds total \$328,000







## EU1 Infestation- 2015-2016

Single tanoak infected with the EU1 clonal lineage of *P. ramorum* found in May 2015.

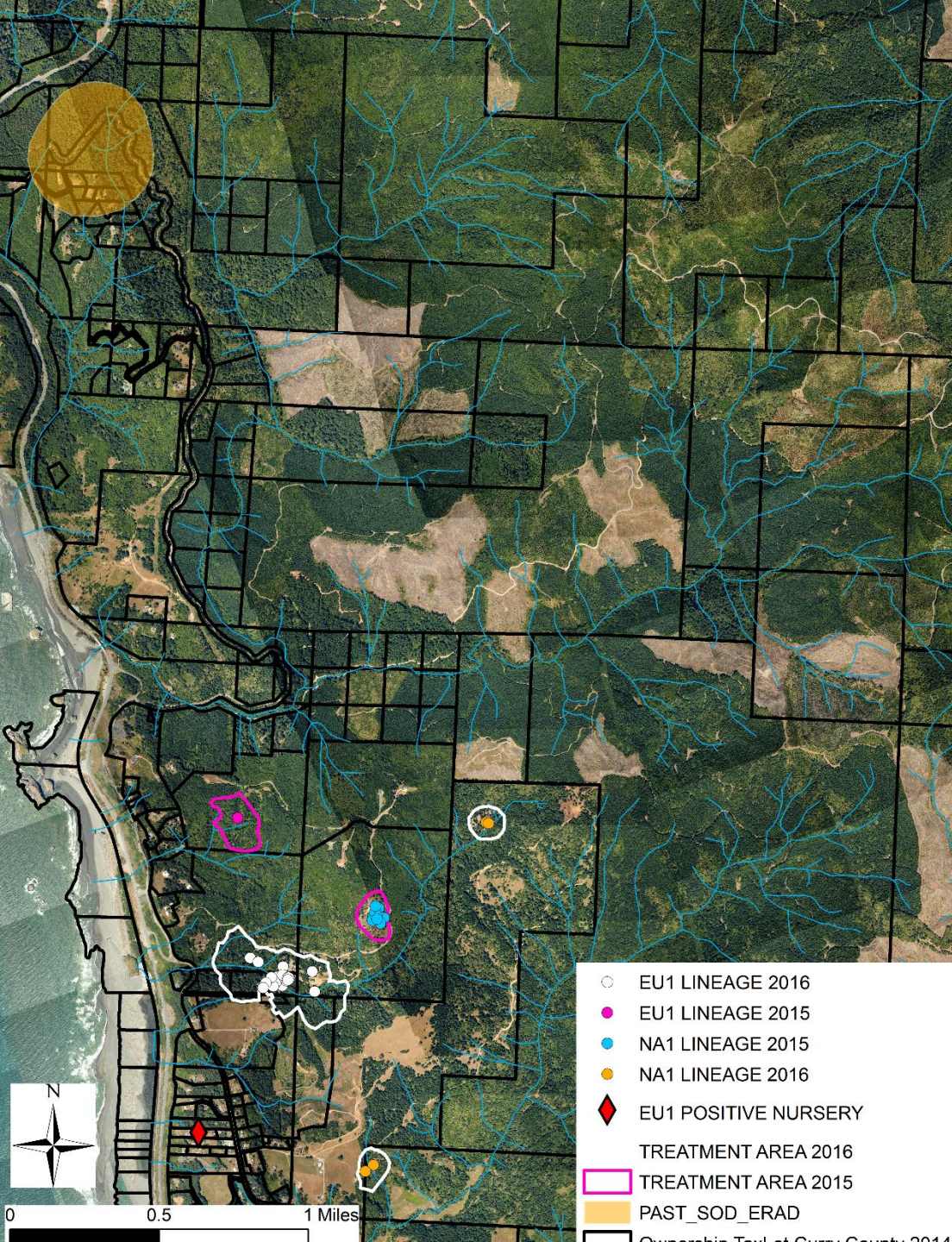
— 13 acres treated

First report of EU1 clonal lineage in US forests

EU1 lineage damages conifers in Europe and is potentially more damaging than other lineages

In 2016, 25 trees were detected ½ mile south of 2015 tanoak.

— 52 acres treated





**SUDDEN OAK DEATH  
EU1 AREA  
07 FEBRUARY 2019**

T37S R15W

T37S R14W

T38S R15W

T38S R14W

Legend

- UNKNOWN - NEAGE 2019
- CLF LINEAGE 2018
- NAF LINEAGE 2018
- UNKNOWN - NEAGE 2018
- Scale Outline Map
- TREATMENT AREA 2019
- TREATMENT AREA 2018

0.4 0.8 1.2 1.6 Miles

## EU1 Infestation- 2017-2018

ODF treated 473 acres of EU1  
infested areas in 2017-2018

455 acres left to treat from 2018

\$2.3 million available for SOD treatments for 2017-2019



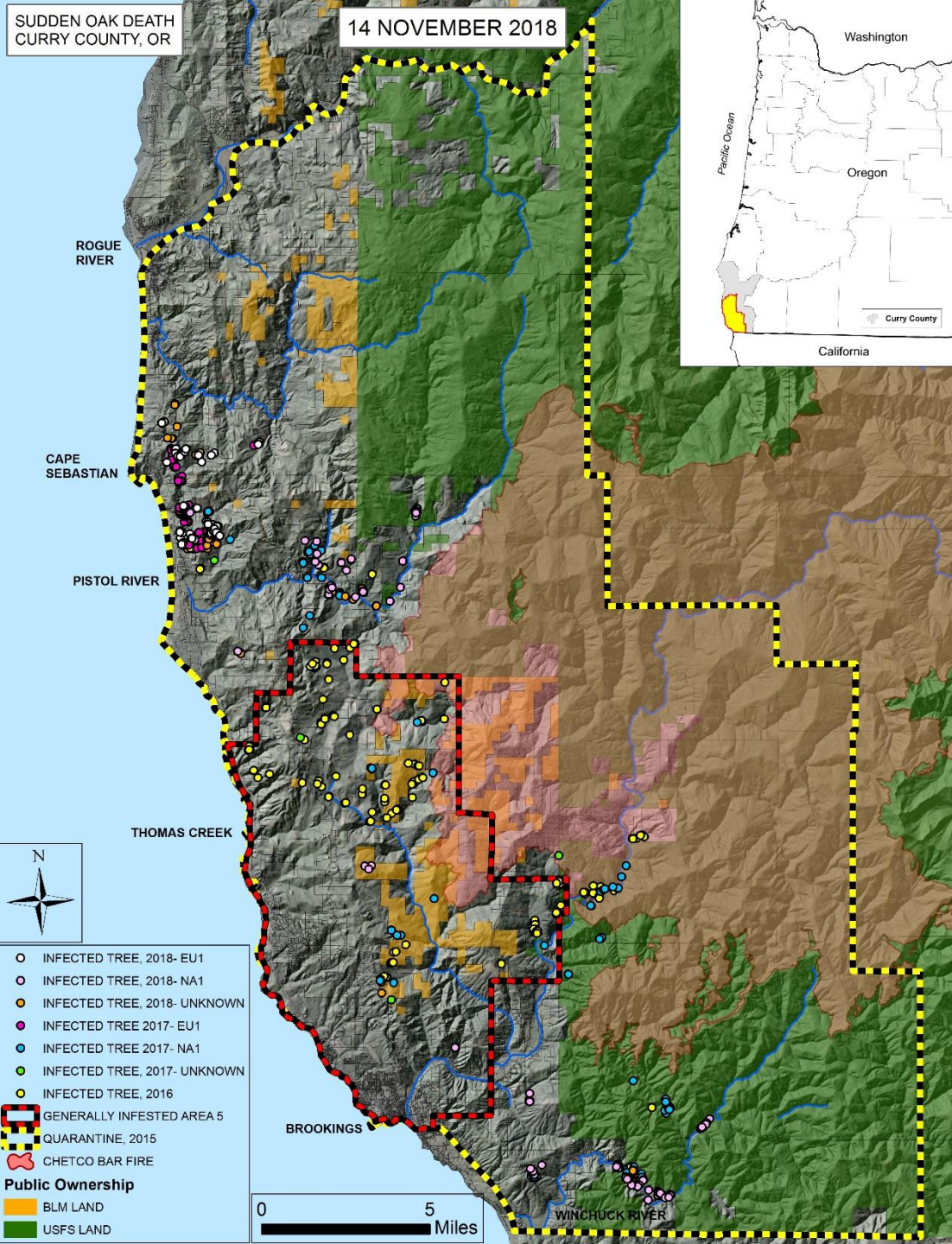


## Current EU1 Studies at OSU

- Devon Gaydos**- Tangible Landscapes and new disease spread model for Oregon (will be used in SOD Econ Analysis)
- Nik Grünwald**- Population genetic analysis of *Phytophthora ramorum*: Evaluating the threat of forest to nursery spread
- Jared Leboldus**- Resistance trials on tanoak seedlings
- Kelsey Søndreli**- Rapid Field Based Detection of the Sudden Oak Death (*P. ramorum*) Lineages
- Hazel Daniels**- *Phytophthora ramorum* lineage x eradication treatment x wildfire interactions: Implications for management.
- Norma Kline**- Using citizen science and outreach education to reduce the risk of *Phytophthora ramorum* spread in Oregon forests &
- Ebba Peterson**- Enhancing mitigation responses to the new threat of an emerging EU1 *Phytophthora ramorum* population in Oregon



14 NOVEMBER 2018



## SUDDEN OAK DEATH 2017-2018

2017: 39 new sites outside the GIA; none more distant than previous sites, and none near the new quarantine boundary.

GIA expanded for 5<sup>th</sup> time to 89 sq mi.

EU1 infestations increased into Cape Sebastian area.

2018: 43 new sites outside the GIA.

EU1 infestations all within the same geographic area, intensification of treatment areas

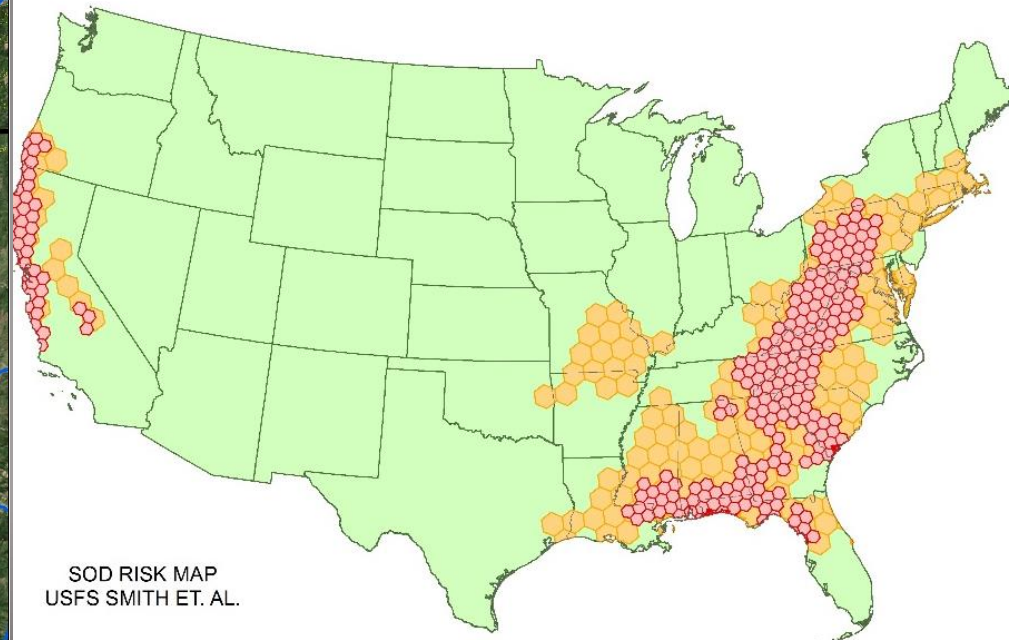
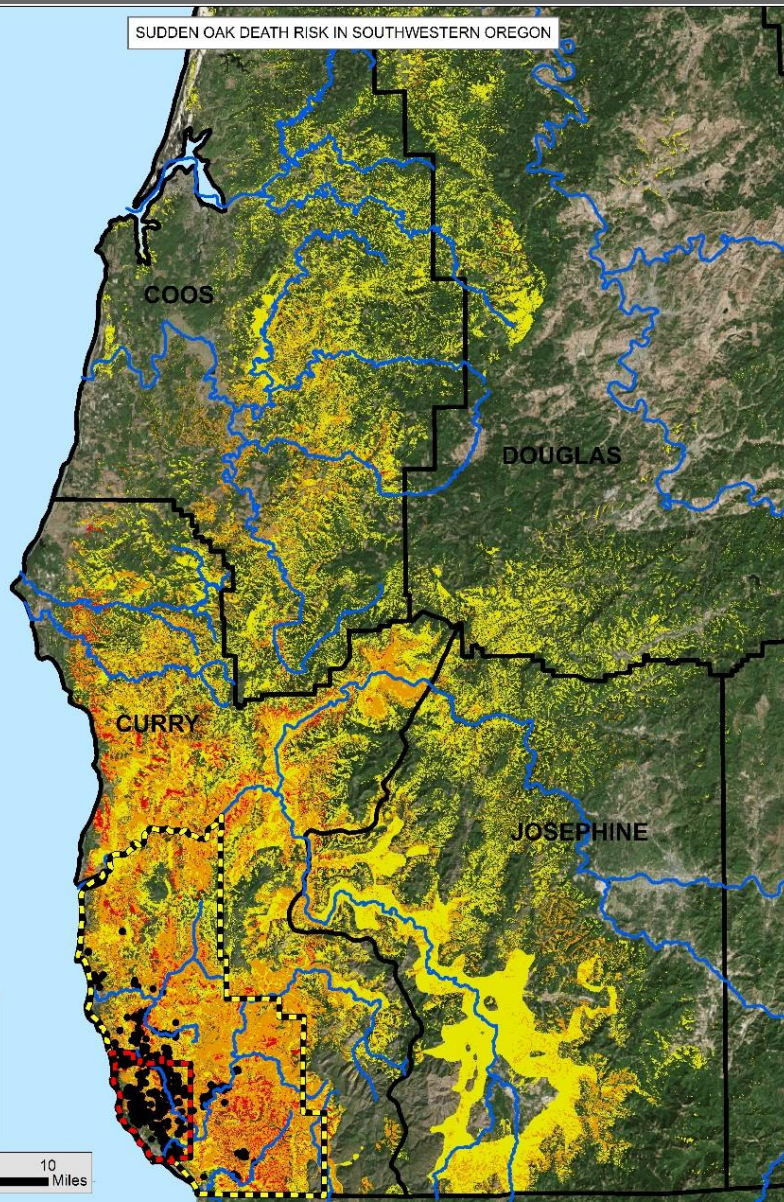
ODF has prioritized all EU1 infestations within the SOD quarantine for treatment this year.

Northern and southern NA1 sites will receive minimal treatments



# Why Slow the Spread of SOD?

- Protect tanoak and other wildlands across the U.S.
- Delay or prevent costs to forest and nursery industries:
  - Regulatory costs
  - Market loss (quarantines)





# Questions?

2012



0 230 460 Feet

